

CLAIMS

1. A piezoelectric device formed by sticking to a metal plate a single crystal plate which is made of a $\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3$ solid solution single crystal or a $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3$ solid solution single crystal, and which is brought into a mono-domain in the thickness direction and in the plate surface to impart a giant-lateral-effect piezoelectric characteristic thereto, while the mono-domain is kept as it is.
2. The piezoelectric device according to claim 1, formed by making the single crystal plate and the metal plate repeatedly laminated with each other.
3. The piezoelectric device according to claim 1 or 2, wherein the single crystal plate is a single crystal plate whose piezoelectric characteristic is not deteriorated from a value immediately after polarization with the lapse of time.
4. The piezoelectric device according to claim 1 or 2, formed as a piezoelectric unimorph and having a bending-vibration-mode electromechanical coupling coefficient k_b not smaller than 50%.
5. The piezoelectric device according to claim 1 or 2, formed as a piezoelectric bimorph and having a bending-vibration-mode electromechanical coupling coefficient k_b not smaller than 60%.

6. The piezoelectric device according to any one of claims 1 to 5, wherein six faces of the mono-domain single crystal plate are used as a face which prevents domain wall movement.

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7. The piezoelectric device according to any one of claims 1 to 5, wherein the metal plate and adhesive layer that sticks the single crystal plate are used as a member which prevents domain wall movement.

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